Mellon

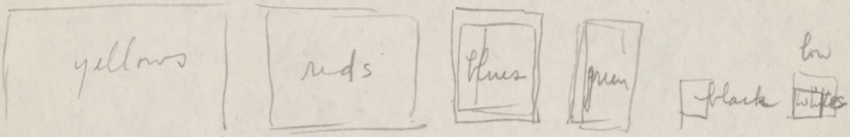
Byzantine - see opp. page -

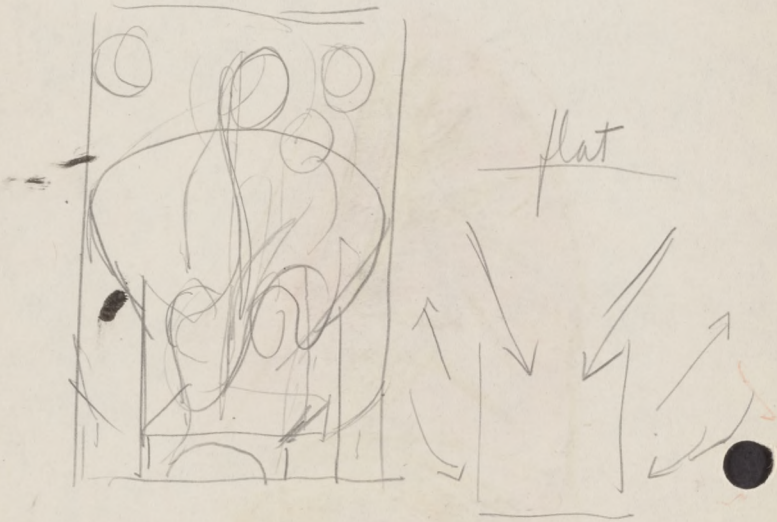
Figures in colors - red - blue - green - salmon & brown

on a dark yellow green + number neutral architecture

in gold -

dark green floor





In Byzantine painting — hatchings
& patterns of modelling & folds
is painted in stylized gold
design on flat tones
of drapery — which has
2 tones — half tone (local color)
& shadow — together with
gold outline —

The simplest & most striking contrasts are the best —

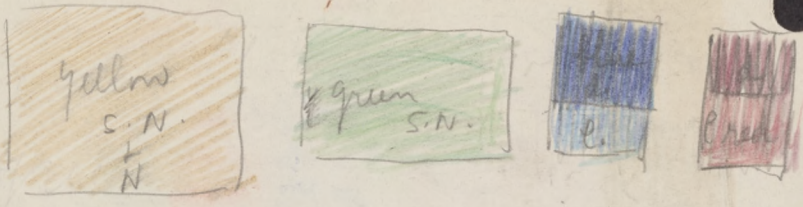
Sleeve

blue mantle over red ⟷ light blue – red

Duccio – calling of the apostles

red and blue – gold

green



The hierarchical power of vermillion

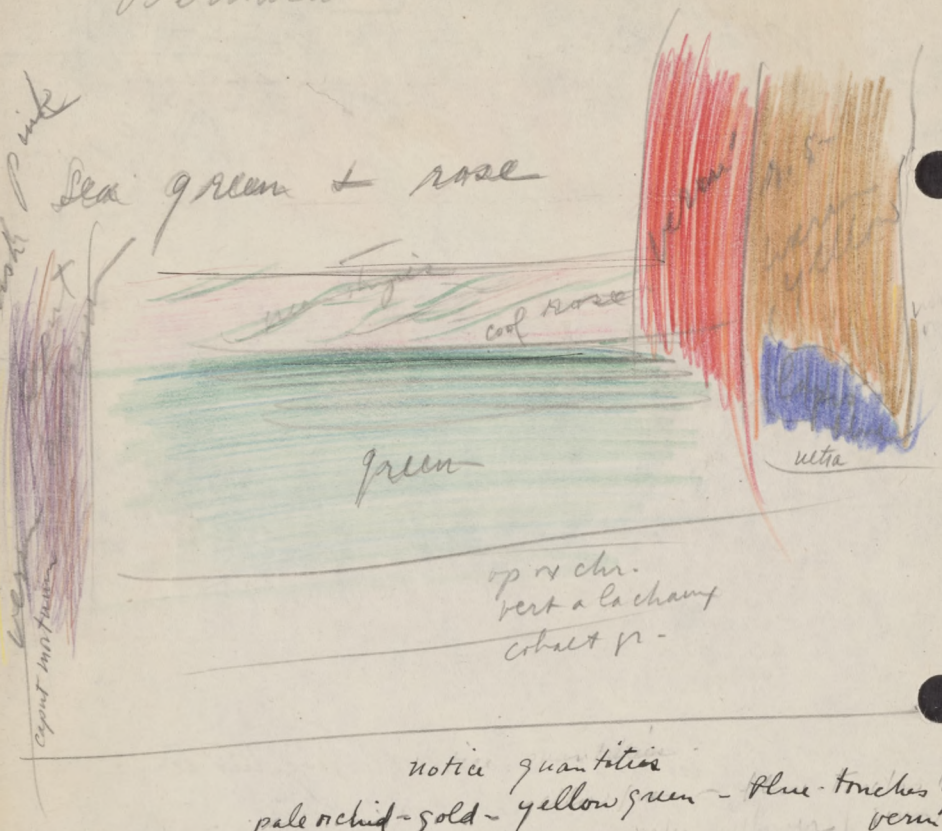
pink - Transp. cool - (warmed with a little yellow?)

#. Puccinelli - Tobit blessing his son
delicately modelled cool whites
the flock is warm crimson
~~a light yg. and a darker cooler green to model it~~ -

Duccio - Nativity

Virgin - lapis or vermilion -
bit of crimson undergarment -
face & flesh pink with strong green shadows. green cobalt green - terre verte
vert a la chaux -
a little gold -
Eyes of shepherds yellowish + ochres.

Bernardo Daddi - Madonna + Child



notice quantities
pale orchid - gold - yellow green - blue - touches of verm -

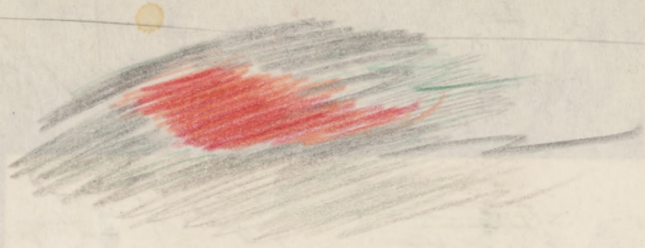
+ a pale warm white shadows
with gold + yell

a dark + pale blue - verm.
+ a dark red (canopy) with gold
V. is at the base as support

color patterns moving

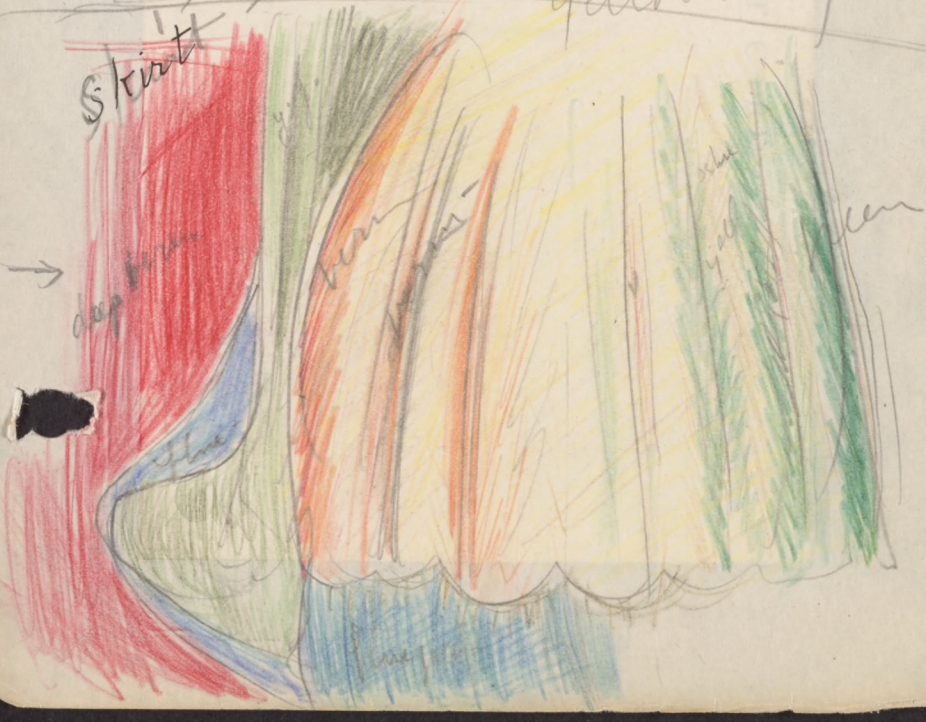
grey green + vermilion -

C. R. L.



wings of angels generally partake & reflect the body or garment colors in order to preserve unity.

colors of angels — yellowish lights


Skirt
deep crimson
blue
yellow
yellow
yellow

dark red purple
or dark green

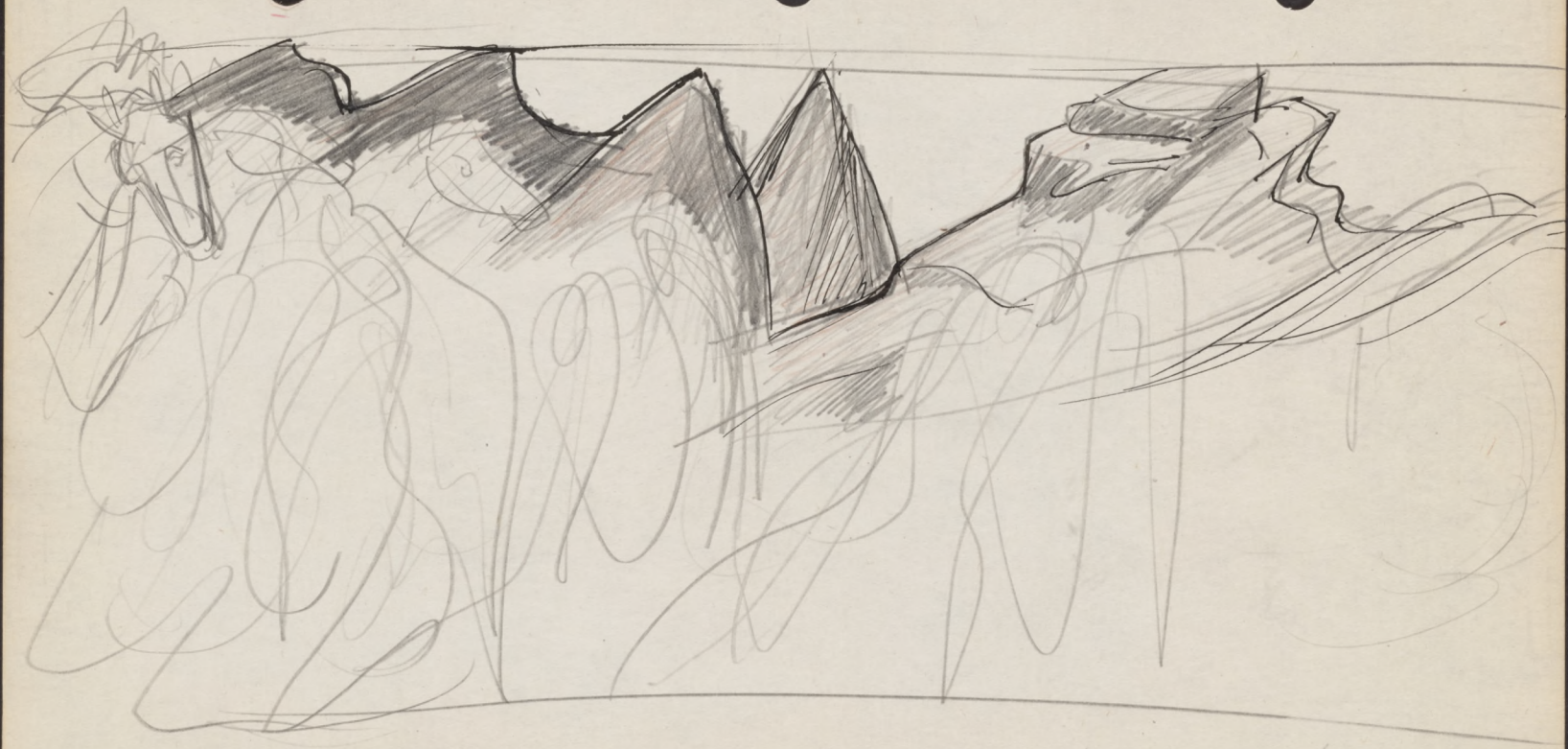
with lapis, gold and touches of vermillion

Gentile Fabriano

a bright shaded yellow
pale to deep - with a dark
c.p - c.m - c.o - shaded ultramarine
+ green

together with crimson - vermillion
yellow green - red violet, violet, brownish
purple + grey - + gold

The balance between blue - yellow



master of Bambino Vispo

Adoration of Magi

procession with figures + horses

against ~~landscape~~

Piero di Cosimo - allegory

panel - balance of color - small intense area against + in a large neutral area - horse seems modelled of same tones as sky + background. The modelling relief brings it forward -

The scheme is an all over pearl grey - ~~grey~~ with pale blues + yellows - + faintly washed with rose - but cool + neutral - together with greyish yellow greens - and very low yellows (s.u.) warmed (as in the wings) with a little burnt sienna - and a drapery of crimson.

a female swimmer with fish tails in the channel in front circles the island -

female holding stallion – holds leafing branch in other hand

a marvellous blue slightly on the green
combined with a red purple +
a yellow + a blue green –
+ flesh tones –
+ white – touches of gold

Raphael

red ultramarine - or dark yellow green

warm flesh -

(ivory) black hat

low yellow hair

Raphael of Altoviti -

The Castagno shield

Carpaccio's Saint Reading

design for chairs ?

Mantegna drawing for

Judith + the head of Holofernes -

Suburb

Saint reading - Carpaccio

Carmel monastery - Avila

warm ultra next to a warm middle yellow – with brownish + greenish tones – a little crimson below with blue + whites in grey.

LE NOUVEL ESSOR

G. JACQUART o. ✻

40, rue des Saints-Pères, Paris VII^e^ Tél. Littré 94-02

PEINTURES, AQUARELLES, DESSINS
GRAVURES, LIVRES de LUXE

Asselin, Bonfils, Boussingault, Corneau, Hermine David, Derain, Despiau, Dubreuil, Ch. Dufresne, R. Dufy, Dunoyer de Segonzac, A. Fraye, Goerg, Grillon, Gromaire, Hasegawa, Hermann Paul, Hecht, Kayser, E. Laborde, Laboureur, Marie Laurencin, Le Breton, Léopold-Lévy, B. Mahn, Maillol, Manguin, Matisse, L. A. Moreau, Morin-Jean, Picasso, Urbain, Vergé-Sarrat, de Waroquier, de Wlaminck, etc....

DE 9 HEURES 1/2 A MIDI ET DE 14 A 19 HEURES

Domaine

5 Rue du Domaine

14ème

Gob. 56-16.

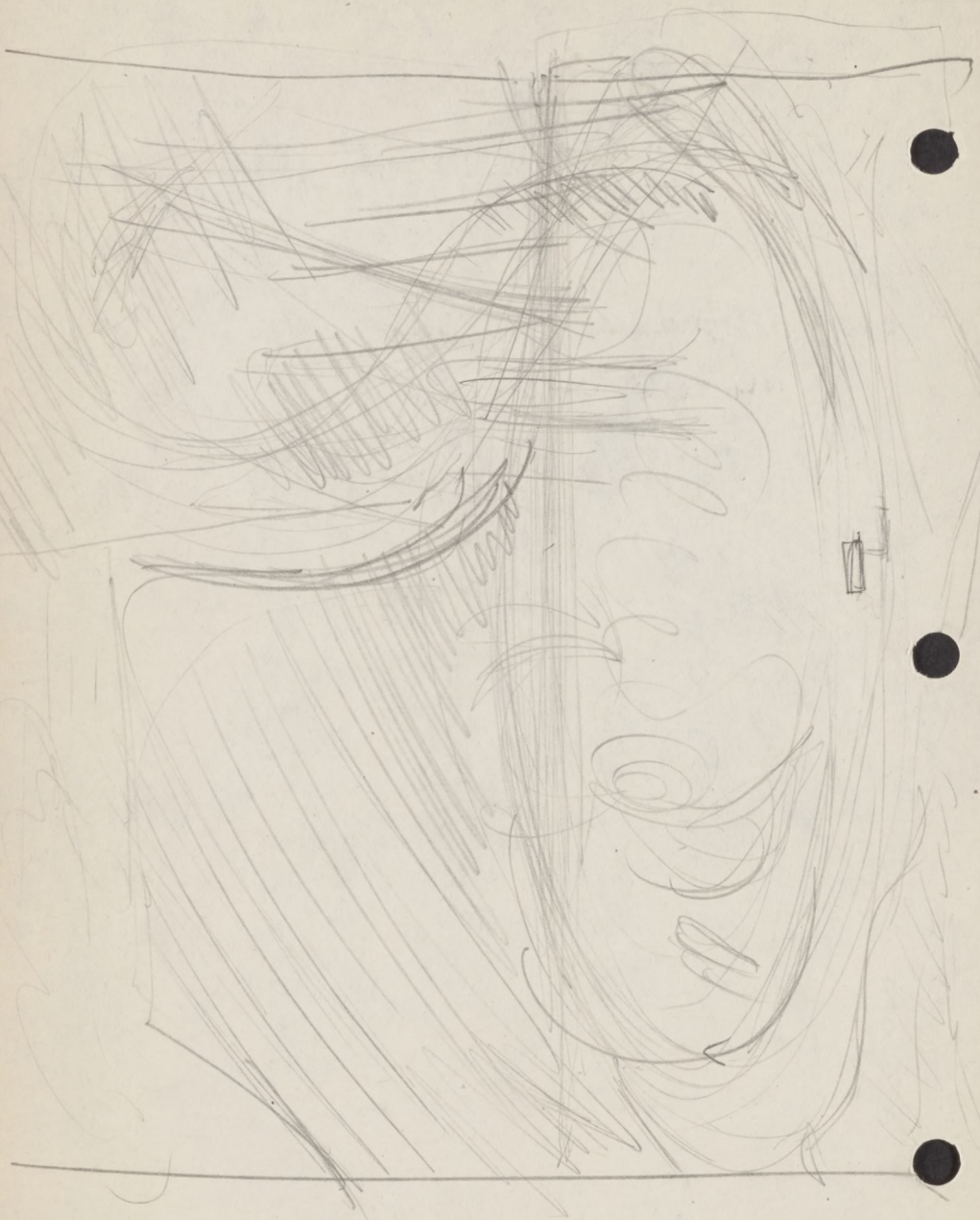
Près du Parc
Montsouris

The small white dots accenting the edges of the neck + skirt of the tunic of Castagno's David - missing on the rolled up sleeves.

a very strong realism combined with a geometric + primitive + abstract style — see also Mantegna -

The Landi Lady - all modelled in pale golden yellows with a slight green + touches of rose - hazel eyes - against a background landscape of brown rocks + trees with a blue distance + neutral warm cities with golden lights - a bluish sky - a red robe + a coral beads - a brown cap.

The group
17 figures



The Bellini - Feast of the Gods -
Analysis —

The procession element in the group
The color -

The touch - Vermeer -
broad and simple - pure and solid

The space design —

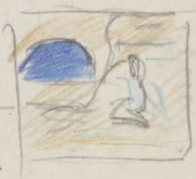
The high city touched with light
on the mountain top

The blues - whites - yellows - oranges - reds -
red purple - browns & low greens -

2 color modelling of draperies -

St. Jerome reading —

caves — design —
Color — light



Strong blue in distance —
no color in cave — (warm low yellows —
weak blue on Jerome — white — green)

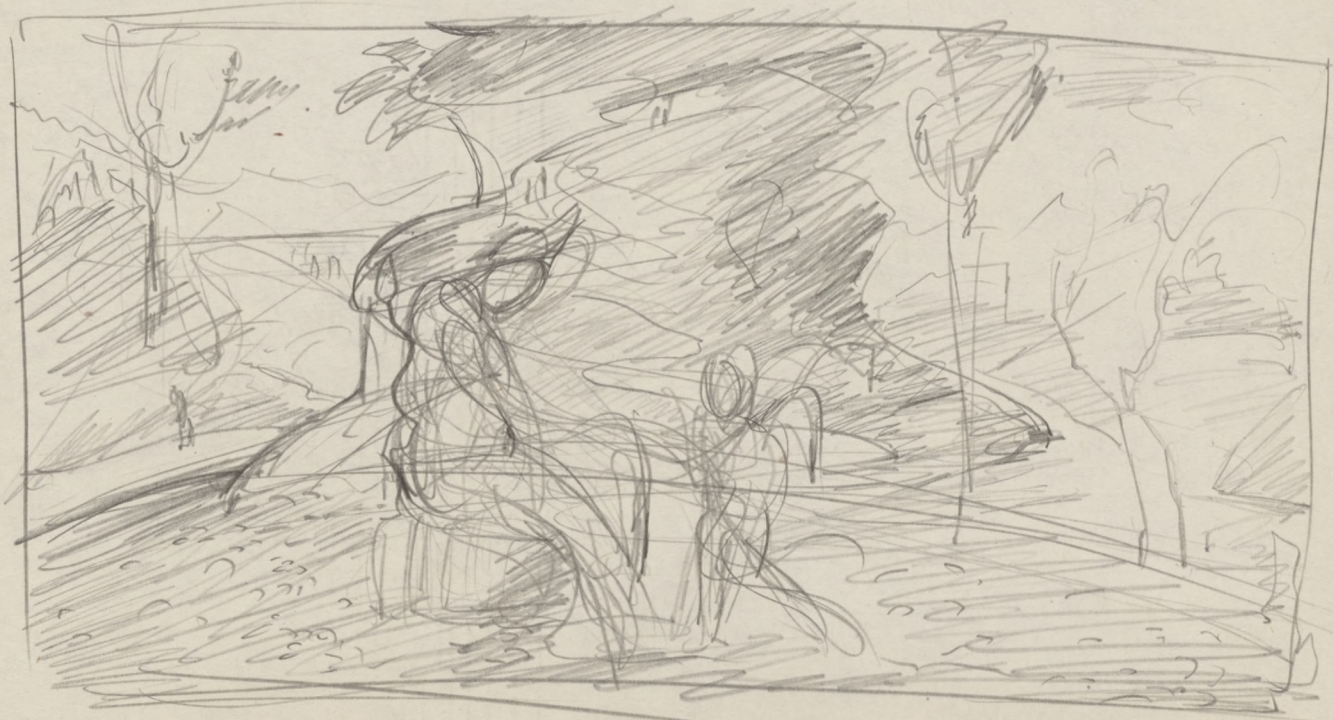
G. Bellini sathits

The Orpheus of Giovanni Bellini —
a great lyric landscape with figures —

The exquisite blue (monastral + cobalt + cad yell.)
stream running horizontally through
the landscape (a little less than half
the height of the picture) and forming a
lovely harmony with the yellow green
grass — + warm brownish green trees —

The simply modelled figures of lovely
pure gesture — nude and cloaked in strong
blue + rose madder — The animals
and birds — The grey lioness or tiger cat —

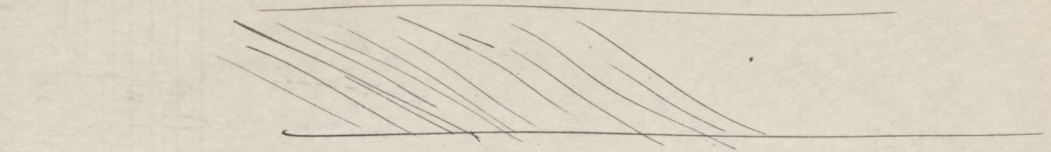
The scale of the figures in relation to the landscape
is a little over 1/3

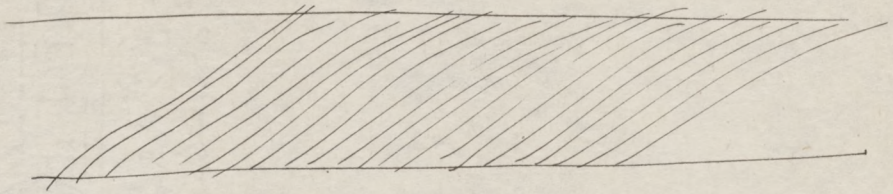


rose + green

Giorgione ?

Elliot patio





hatching a flat surface with a slightly curved line to keep it from being too rigid —

rigid contrast might be desired, however

foreground note for Partington boat - from a German engraving

The great simplicity of Bellini's landscape forms & his architecture - the broad planes of his modelling like the early Greeks.
The greatest depth of color compatible with a sense of light -

note Picasso - color as light = & hence as form.

The Moonlight & purple shadow
↓
blue-grey
composite

of Botticelli's allegory

---

a flowering vegetation behind a figure -
either explicit & primitive
or restrained & suggested by a few
rose flowers in the dark green as
in Pietro's

Raphael- greater grandeur (due to breadth & simplicity) than Perugino

a yellow green and a blue green with a red purple.

Veneziano-

St. Francis receiving stigmata-

yellow green s.w. turf-

pale cobalt stream

dark green trees with yellow green lights-

figures robed in saw umber

near mountain cool saw umber (2 touch)

red purple pale - middle mountain

bluish mountains in distance -
blue & blue lavender very warm.

blue sky. white clouds-

touches of vermillion + gold.

ochre flesh -

The Luini frescos - Cephalus & Procris

Lady + Unicorn - great grace + feeling

Large plants with red flowers

beautiful draughtsmanship + delicate colors

Picasso etching + aquatint - large plate in black - halftone - + white - superb in varied technique - velvet black of background - monumental yet full of movement

great balance of masses - rhythms + invention of forms -

Notes for Engraving of Dinosaurs -

perspective of architectural forms

direct the cuttings toward the pt. of sight

delicate work for most remote objects.

sharp strokes for parts nearest the eye

breadth of style - beauty of execution.

Beauty of contour -
broad lights
Simple + powerful effects -

Style { drawing / beauty } { richness / color + tint / less important }

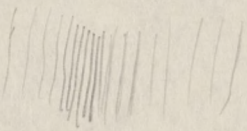
Notes for Whales' Eye Engraving

Character
firm but supple strokes - sharp and regular

Have the drawing with wax or points or both - marking contour & shadow areas

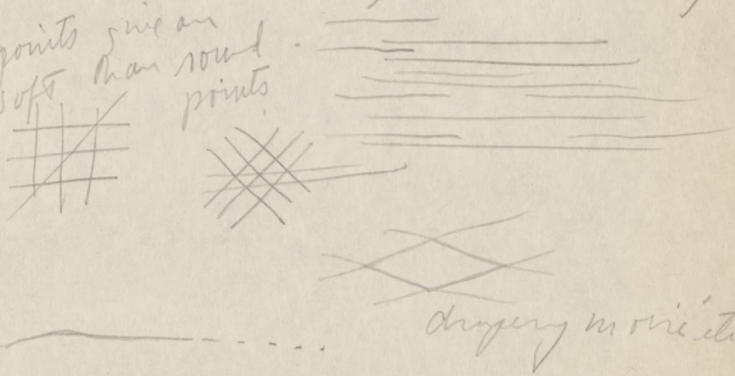
first cuttings - powerful
2nd lines more slender

In case of pupil easier to cut slender ones first? so burin won't jump over close deep furrows -



Lines calary lines imitate polished & shining bodies - (calm & water)

Lengthened points give an effect less soft than round points



drapery movie etc -

The cutting follow - perspective - form & nature of objects & this dominant direction

Berlin — Manet - greenhouse -

The wonderful saffron tones with the colored greys - grey modified with naples, blue-rose etc.

Major scheme.

blue green + violets
blue greys -
blue.

Neutral yellows.

rose
flesh.

Guardi - Balloon ascending.

red purple + white on

yellow green —

with blue grey —

vermillion - yellowish -

pinks — + a yellow —

pink ground –

grey building –

dark green –

Sunset sky –

figure in ochre + red –

little blue flowers + orange ones

---

pale slate blue sky –

à Cachan

pale wild green land –

with yellow + grey whites

+ pale rose + yellowish

hills –

---

blue purple – red flowers

chinese landscape
ink + color
warm + cool
rock strata - angles + tilt _ see Leonardo

dark contour
light interior patterns
graded inks

Sumi-e sumi - contour drawing -

pale greenish ochre hand at top with
scraper
or like Rajput - color areas - dark blue
decorative
border -
+ lettering -

+slate
dark prussian, stony - red + olive green
white architecture molding ornament
in architecture -

strong venetian red - wall - with light
opaque oxide chromium + dark red purple
also a little yellow (Indian) + chartreuse =
a touch of light red violet ——
olive green — / border - blue - red purple
vermilion + olive green
white + pinks

Sumy ink brush gesture drawing

greatest precision and quality

also finest mistinct + thin sight

little - usually no color -

The form single line dividing the

light is used to draw the mouth -

dark accents - eyes - nose - mouth line

Space - dark + light inks -

water + rock + tree conventions

The thickness of the ink

As the end of method is perspicuity that Series is of sufficiently regular that avoids obscurity / and / where there is no obscurity it will not be difficult to discover method.

from Johnson's life of Pope

Duodecimo 5 ¼ x 7 ½ " 12mo 12 leaves to a sheet
quarto 9 ½ x 12 " book - 4 leaves to the sheet in quarto
octavo 6 x 9 ½ " " 8 leaves to sheet 8vo.
folio a book of sheets of paper folded once - largest size

Get Pope's ~~English~~ Iliad
& Pope of the Dunciad

"There is nothing" says Juvenal, "That a man will not believe in his own favor"

Empirical - depends observation founded on experience without due regard to theory -
a priori from principles assumed - deduction

"For this reason this joint productions of three great writers has never obtained any notice from mankind; it has been little read – or when read has been forgotten, as no man could be wiser, better, or merrier, by remembering it".

From Johnsons life of Pope

"There is nothing that is meritorious but virtue & friendships, and indeed friendship itself is only a part of virtue" –

Pope as he was dying.

"I know you have tenderness; you must have it; it is the very emanation of good sense & virtue. The finest minds like the finest metals dissolve the easiest."

Pope's letter to Lady Mary W. Montague Sept. 1717 on the death of two lovers by lightning.

Berkeley	1684 - 1753
Dryden	1631 - 1701
Pope	1688 - 1744
Bach J. C.	1735 - 1782
Haendel	1685 - 1759
Haydn	1732 - 1809
Bach J. S.	1685 - 1750
Swift	1667 - 1744
Congreve	1670 - 1730
Mozart	1756 - 1791
James Thomson	1700 - 1748
Newton	1642 - 1727
Sir T. Browne	1605 - 1682
Locke	1632 - 1704
Gluck	1714 - 1787
Southey	1774 - 1843
Byron	1788 - 1824
Chopin	1810 - 1849
Wagner	1813 - 1883
Schubert	1797 - 1828
Weber	1786 - 1826
Schumann	1810 - 1856
Paganini	1784 - 1839
Meyerbeer	1791 - 1864
Berlioz	1803 - 1869
Franck	1822 - 1890
Saint Saëns Massenet	19th cent.
Borodin	1834 - 1887
Tchaikowsky R. Korsakoff	19th cent.
Beethoven	1770 - 1827

R. Southey 1774-1843

Adam de la Hale 13th cent.
troubadour
3 part harmony

Plantagenet - A member of the English royal house, founded by Geoffrey of Anjou, father of Henry II. The English kings from 1154 to 1485 - (Henry II - Richard III) were Plantagenets. The name was adopted as a surname about 1460 by Richard of York (father of Richard III); it probably arose as a nickname of Geoffrey, alluding to a sprig of broom plant (L. planta genista) worn in his bonnet.
Webster

Dante 1265-1321
Petrarch 1304-1376
Boccaccio 1313-1374
Chaucer 1340-1400

Cosmo de Medici 1428-1464
Leonardo - 1452-1519
Copernicus - 1473-1543
Ariosto - 1474-1533
author of Orlando Furioso
Durer 1471-1528
M. Angelo 1475-1564 Dt. Tasso 1544
Titian 1477-1576
Machiavelli 1527
+ Ceasar Borgia 1561 1626
Bacon
Galileo 1565-1631
Shakespeare 1564-1616
Queen Elizabeth 1558-1603
Descartes 1595-1650
Milton 1608-1674
Molière 1622-1673
Spinoza 1632-1677
Boileau 1636-1711

Hokusai 1760 1849

Goethe 1749 - 1832

Hugo - 1802 - 1885

Corelli - 165[illegible]3 - 1713

Horace 65 - 8 B.C.

Juvenal 60 - 140 satirical poet

Terence

Plautus

Tacitus 55 - 117 ? histrian

Homer 9th Cent. B.C.

Hesiod (Epic poet)

Herodotus 484 - 425 B.C. ?

Theocritus B. 1315 B.C.
a native of Syracuse

Hesiod 776 B.C.

Plutarch - Greek biographer
46 - 120 ?

Epaminondas - Theban Statesman
& General - 418 - 362 B.C.

Epicurus fr. c. 342 - 270 B.C.

" ..... Where creeping waters ooze,
Where marshes stagnate, & where rivers wind,
Clusters the rolling frogs, and swims along
The dusky mantled lawn. Meanwhile the moon
full-orbed, & breaking through the scattered clouds,
Shows her broad visage in the crimsoned east.
Turned to the sun direct her spotted disc,
Where mountains rise, umbrageous dales descend,
And caverns deep, as optic tube descries,
A smaller earth, gives all his stage again
Void of its flame, & sheds a softer day.
Now through the passing cloud she seems to stoop,
Now up the pure cerulean rides sublime.
Wide the pale deluge floats, & streaming mild
O'er the skied mountain to the shadowy vale,
While rocks & floods reflect the quivering gleam,
The whole air whitens with a boundless tide
Of silver radiance trembling round the world. ...
But when the lengthened night elapsed, the morning shines
Serene in all her dewy beauty bright
Unfolding fair the last autumnal day.
And now the mounting sun dispels the fog;
The rigid hoar-frost melts before his beam;
And hung on every spray, on every blade
Of grass, the myriad dew-drops
twinkle round."

James Thomson — Autumn

Virgil - 70 - 19 B.C.
Augustus - 27 B.C. A.D. 14 -
1st Emp.

"
. . . . .

Aye ! there are less,
that were Love's summer,
than one cold phrase
of old blind Homer?
Not Helen's wonder
nor Paris stirs,
but the bright untender
hexameters.
And thus, all passion
is nothing made,
but a star to flash in
an Iliad."

K. Wolfe

"How happy's he who hath due place assigned
To his beasts and disforested his mind!

* * * * *

Can use his horse, goat, wolf, and every
beast,
And is not ass himself to all the rest!
Else man not only is the herd of swine,
But he's those devils too which did
incline
them to a headlong rage, and made
them worse."

(Used as an illustration to Thoreau's Walden)

"

Yet, for my part, I was never unusually squeamish. I could sometimes eat a fried rat with a good relish if it were necessary. I am glad to have drunk water so long for the same reason I prefer the natural sky to an opium-eater's heaven. I would fain keep sober always; and there are infinite degrees of drunkenness. I believe that water is the only drink for a wise man; wine is not so noble a liquor, and think of dashing the hopes of a morning with

a cup of warm coffee, or of an evening with a dish of tea!"

Thoreau

Chi-wu Ch'ien – Tang dynasty

"Thoughtful elation has no end:
onward I bear it to whatever come.
And my boat and I, before the evening breeze
Passing flowers, entering the lake,
Turn at nightfall toward the western valley,
Where I watch the south star over the mountain
And a mist that rises, hovering soft,
And the low moon slanting through the trees.
And I chose to put away from me
every worldly matter
And only to be an old man
with a fishing pole."

Chang Pi

"I go in a dream to the house of Hsieh
through a zigzag porch with arching rails
to a court where the spring moon
lights for ever
Phantom flowers and a single figure.

Po Chü I Tang

Last year when I lay sick,
I vowed
I'd never touch a drop again
As long as I should live.

But who could know
Last year
What this year's Spring would
bring?

And here I am,
Coming home from old Liu's house
As drunk as I can be!

Poetess Wu Tsing Ai — Ch'ing
1644–1711 —

The moon
Casts the shadow of the plum
Upon my bed.

I remember well
That day so long ago
When with these hands
I planted that old plum.

Last night was chill & sharp,
And the cover of my bed
Was scant & thin,
But the fragrance of the plum
Stole through my dreams,
And I forgot old age
And frost and cold.

Awaking, I looked out,
And there the bright moon shone
On the newly opened blossoms
Of the plum.

Hsü Pên Ming

The Hermit

I dwell apart
From the world of men.

I lift my eyes
To the mighty hills,
And sit in silent revery
By rushing streams.
My songs
Are the whisperings of the winds
And the soft murmurs
Of falling rain.
Blossoms open
And flutter to earth again.
Men come
And men go;
Year follows year,
And life goes on.

Dryden's - dedication of his translation of the Aneid to Lord Normanby - Earl of Mulgrave

"Tragedy is the miniature of human life; an epic poem is the draught at length. Here my Lord, I must contract also; for hyre I was aware, I was almost running into a long digression, to prove that there is no such absolute necessity that the time of a stage - action should so strictly be confined to 24 hrs. as never to exceed them; for which Aristotle contends & the Grecian stage has practiced. . . .

Corneille himself was inclined . . . to think that the time allotted by the ancients was too short -

" Thus like Apelles you stood unseen behind your

own Verses and received the
praises of the passing
multitude

they begin with the moral of
his poem, which I have
elsewhere confessed and still
must own is not so noble as
that of Homer —

Aeneas more deliberate than
Achilles —

I have already told your
Lordship that Virgil was no
arbitrary man. Obliged he
was to his master for his
bounty, & he repays them
with good counsel ....
From this consideration it is
that he chose for the ground
work of his poem no Empire
destroyed, & another raised
from the ruins of it.
This was just the "

The blood of Rome descended
from Trojan Lineage — a
thought dear to the Romans

Aeneas succeeded not but was elected. R

Postquam res Asiae, Priamique superbum
Sceptrum
Immeritam pis um supervis -
lib. III. 1

Horace wrote an ode to dehs Augustus from rebuilding Troy as capital of the empire - Herein the emperor laid aside a project so ungrateful to the Roman people. But by this, my lord, we may conclude that he had still his pedigree in his head, and had an itch of being thought a divine king, if his poets had not given him better counsel.

Vis Aeneas - : deities - takes his father on his back - leads his son - seeks lost wife until forbidden by her ghost - sorrow for father's death - games instituted in honor of his memory - seeking him in the Elysian fields - etc.

For impartially speaking the French are as much better Critics than the English as they are worse poets ..... I shall perhaps say as much of other nations, and their poets excepting only Tasso;

Segrais takes notice that Virgil is arraigned for placing piety before valor, and making that piety the chief character of his hero. I have already said from Bossu, that a poet is not obliged to make his hero a virtuous man; therefore, neither Homer nor Tasso are to be blamed for giving what predominant quality they pleased to their first Character. But Virgil who designed to form a perfect prince, & would insinuate that Augustus whom he calls Aeneas in his poem, was truly such, found himself obliged to make him without blemish, thoroughly virtuous. & a thorough virtue both begins & ends in piety. Tasso, without question, observed this before me & therefore split his hero in two: he gave Godfrey piety & Rinaldo fortitude for their chief qualities or manners. Homer who has chosen another moral, makes

both Agamemnon & Achilles vicious; for his design was to instruct in virtue by showing the deformity of vice. I avoid repetition of what I have said above. What follows etc. .....

The French translator thus proceeds.: "They who accuse Aeneas for want of courage, either understand not Vergil, or have read him slightly... If it be replied that it was not difficult for him to undertake & achieve such hardy enterprises because he wore enchanted arms - that accusation, in the first place, must fall on Homer ere it can reach Vergil - And Ariosto, the two Tassos (Bernardo & Torquato) even our own Spenser - in a word, all modern poets have copied Homer as well as Vergil: he is neither the first nor last, but in the midst of them; & .·. is safe if they are so.

The arms perhaps an allegorical defence.... born as the astrologers tell us not of Vergil (who was well-versed in the Chaldean mysteries) under the favorable influence of Jupiter, Venus and the Sun.

Virgil excels Homer in the description of the grief of his hero for the lost wife Creusa - // to Achilles + Briseis - Achilles complaining to his mother, when he should have revenged this injury by arms - Aeneas, having secured his father + son - repeats all his former dangers to have found his wife if she had been above ground.

note: Aeneas told it - Dido heard it / an argument for the future - writhessing to the address of Virgil.

If tears are arguments of cowardice - what shall we say of Homer's hero?

Segrais on the subject of a hero shedding tears says that historiques commend Alexander for weeping when he read the mighty actions of Achilles; + Julius Caesar is likewise praised, when, out of the same noble envy, he wept at the victories of Alexander.

Homer, Virgil + Tasso are partial to the causes of their respective countries.

The theme of Book IV is love. Virgil obliged the Romans, perhaps at the expense of his hero - but originating & accounting for the struggle with Carthage -

'varium et mutabile semper foemina' is the sharpest satire in the fewest words that ever was made on womankind - for both the adjectives are neuter, & "animal" must be understood to make them grammar. Virgil does well to put these in the mouth of Mercury, otherwise he must not have written them.

Punica fides becomes a proverb

The defense of the famous anachronism - making Dido & Aeneas contemporaries. for Aeneas lived 200 years before the building of Carthage - Poetical license - & he nor the Romans had ever read the Bible by which only his false computation of times can be made out against him - This Segrais says & proves it from his learned friend Bochartus.

The wedding of Dido & Aeneas — for such it was under the sanction of Juno — was perhaps to make way for

a divorce to foreshadow the divorce of the emperors & Scribonia which had just taken place Ovid in exile - complained in a letter to the emperor of his banishment for teaching the art of unlawful when Virgil showed it in act. iv - a rather shallow & base action on the part of Ovid - who was a bit less clever, also than Virgil.

The argument that Virgil wanted inventive & borrowed much from Homer etc. would reflect also on Homer as the burning of Troy was by no means original with Homer - but was merely digested & set forth with genius by him - In a sense the first 6 books of the Aeneid are after the Odyssey & the last 6 after the Iliad - but this does not mean want of invention.

The similitudes of the poem are rightly placed after the greatest heat of action had died down - & then used to revive not distract the interest.

According to Segrais & in opposition to Ronsard, the action comprises about 10 months -

Sicily - the storm - Carthage - Sicily again & the funeral of Anchises - & Italy & the wars

Vergil was an exact astronomer according to the knowledge of his day. There is a nice reference in the speech of Idomeneus to Aeneas to the agency of Orion in causing the tempest. (see heliacal & acronical risings of constellations). The heliacal rising of Orion is about 6th of July? tempests in summer & rains acronically in winter. It is true that the interference of Gods & religion is important in Epic poetry - so could we have a heroic poem written on Epicurean principles?

a grey of burnt umber + cerulean blue

Saffron – opaque ox. chr.

ultra

black white (grey

middle blue
pale blue (warmer)

BT. Sienna
BT Umber
(warm ochre

ox + white

grey

black white neutral rose
Ven. + White

neutral green (opa. ox)

gold

grey
Navy
red Range + blue
rose – pale blue

BT. umber

↓

white

neutral

cool warm

dry powder mixtures for gouache papers -

black - ivory + a little vine or lamp
for dyes

+ viridian — cool
or umber — warm
+ a dash of zinc for tooth -

Be careful and do not weaken the black (grey it - sully it) with too much green and white - This is very easy to do, and the remedy is to add more dry pigment to the last coat of size - But it is better to judge correctly at first.

a three-ply smooth strathmore seems to serve best - 2 ply wrinkles more. The thicker boards curl & are hard to mount - water-color paper with grain is poor & lacking in final gloss - or sheen - manila paper of the best grade is not bad as a base -

'Homer & Hesiod & Virgil knew
The ploughshare in its measurable shape
Classical from the moment it was new;

'The Lily floated white & red
Pouring its scent up to the sun
The rapt sun floating overhead
watched no such other one.

None marked it as it spread abroad
And beautifully learned to cease:
But Beauty is its own reward,
Being a form of Peace.'

Whereas passionate love desires its object, and nature conceals her object within its actions, the soul desires creation directly and thus is natured and good. Thought + desire are one.

Signs of the Zodiac

No.	NAME & symbol	SUN ENTERS	No.	NAME & symbol	SUN ENTERS
1	Aries, Ram ♈	MARCH 21	7	Libra, Balance ♎	Sept. 22
2	Taurus, Bull ♉	APRIL 20	8	Scorpio (scorpion) ♏	Oct. 23
3	Gemini, Twins ♊	MAY 20	9	Sagittarius (archer) ♐	Nov. 23
4	Cancer, Crab ♋	June 21	10	Capricornus (goat) ♑	Dec. 21
5	Leo, Lion ♌	July 22	11	Aquarius (water bearer) ♒	Jan. 20
6	Virgo, Virgin ♍	Aug 22	12	Pisces Fishes ♓	Feb. 19

astron.

A sign is one of the 12 divisions of the ecliptic or zodiac. Now, owing to the precession of the equinoxes, the constellation Aries is in the sign Taurus, Taurus in Gemini etc.

ecliptic :- that great circle of the celestial sphere which is the apparent path of the sun or of the earth as seen from the sun.

The Pagan Empire -

Long before the triumph of Christianity polytheism had ceased to have any great influence on the more cultivated intellects of mankind. In greece we trace a religion of nature, wholly different from the legends of mythology - Philosophers were contemptuous & hostile to the prevailing beliefs - Plato banished poets from his Republic for same reason - Stilpo ridiculed the system of sacrifices & was exiled from athens for denying the athene of Phidias was a goddess - The Epicureans deemed the gods indifferent to human affairs. The Pyrrhonists denied the possibility of our achieving any sure knowledge. The Cynic Antisthenes said there were many popular gods, but only one God of Nature. The Stoics reproducing an opinion supported by Aristotle & attributed to Pythagoras, believed in an all-pervading soul of nature, but unlike modern schools asserted self-consciousness of the deity.

In the Roman Republic & Empire
a general skepticism had likewise
risen among the philosophers & the
Educated classes were divided
between the atheist Epicureans
& pure theists like the Stoics & Platonists.
the first represented by Lucretius &
Petronius regarded the gods as the
creations of fear, denied Providence
& attributed the world to a
concurrence of atoms & life to spontaneous
generation - the others formed a more or
less Pantheistic conception of Deity -
the first systematized explanation of
the legends was by a Sicilian
Euhemerus, translated by Ennius:
Some of the Stoics regarded the gods as
personifications of different forces
of nature or attributes of the Deity.

Varro: 'the soul of the world is God,
and that its parts are true
divinities'

Virgil & Manilius described the
universal spirit -

Pliny - 'the world & sky - must
be deemed a god - immense,
never begotten, & never to perish'

Cicero adopted the Platonic conception of Deity as mind freed from all taint of matter.

Seneca celebrated an omniscient & universal Jupiter.

Lucan the great poet of Stoicism described Jupiter's throne as virtue & the universe.

Quintilian defended a world autocrat on the ground it was an imitation of the government of God.

Some Stoics believed in a final catastrophe & a resurrection & absorption into the parent spirit.

The Stoics held aloof from direct religious discussion - advised against oracles & placed duty & conscience above success.

Cato wondered that two augurs could meet with gravity.

Ovid mocked the fables in the Metamorphoses - as early greek moralists had done.

With an irony not unlike that of Isaiah, Horace described the carpenter deliberating whether he should convert a shapeless log into a bench or into a god.

Seneca + the whole school of the Pythagoreans objected to the sacrifices.

The aesthetic enthusiasm of Lucretius and the sceptical enthusiasm of some of the disciples of Carneades were isolated phenomena.

The majority however countenanced + practiced with assiduity what they despised + it was believed that there were some things that the lower classes should not know — + that any religion was good if it induced virtue — esp. the religion of one's own state — or city as the oracle of Delphi said.

The Stoics taught that every man should duly perform the religious ceremonies of his country

The Academic Cicero & the Epicurean Caesar were both high officers of religion.

Roman religion was patriotic & selfish not religious — was used for prosperity etc. The Greek was full of unbridled fancy. The Egyptian, nature-worship. However the Roman rites mingled with & strengthened some of the best habits of the people.

Corruption first appeared with the return of the army of Manlius from Asia — & identification of religious systems came about.

The Greeks were essentially Epicureans, the Romans Stoics — war, in Rome, brought forth the virtues of honor — self-control — patriotism & enthusiasm.

* ..... The predisposition that leads men in their Estimate of * The comparative Excellence of different qualities to select for the highest eulogy those which are most conspicuous to

their own character.

'Whenever', says Plutarch, 'we begin an enterprise or take possession of a charge, or experience a calamity, we place before our eyes the example of the greatest men of our own or of bygone ages, & we ask ourselves "how Plato or Epaminondas, Lycurgus or Agesilaus would have acted".'
It was not surprising that during the Empire although the conditions of national life were profoundly altered, Stoicism shared with the philosophical religion.
Epicureanism spread widely during the Empire but proved little better than a principle of disintegration or an apology for vice — or at best the religion of the tranquil & indifferent & of those possessing no strong moral enthusiasm.
Epicurus himself, however, was a man of purest blameless character & at first his philosophy was carefully distinguished from the coarse sensuality of the Cyrenaic School that had preceded it.

According to Cicero, the first Latin work on philosophy was by the Epicurean Amafanius.

... ' the shrewd, placid, unsentimental utilitarianism of Epicurus.

The mission of Epicureanism in Rome was: chiefly negative. The anti-patriotic tendency of its teaching contributed to that destruction of national feeling necessary to the rise of cosmopolitanism, while its strong opposition to theological beliefs, supported by the genius & enthusiasm of Lucretius, told powerfully upon the decaying faith.

The Stoics asserted 2 cardinal principles - that virtue was the sole legitimate object to be aspired to, & that it involved so complete an ascendancy of the reason as altogether to extinguish the affections.

There were of course attempts to modify these - esp. by the Peripatetics & those deriving from Plato

Stoicism & the conception of duty.

Patriotism & unselfish martyrdom with no thought of reward.

Cicero: - "what one utility has created, another will often destroy"

Plato compares virtue in the mind to health in the body, & according to Plutarch, Aristo of Chio defined virtue as the health of the soul.

The intuitive school of moralists & the notion of duty as distinct & self-sufficient.

The famous paradox that the sage coned be happy even in the bull of Phalaris comes from Epicurus not Zeno - though the Stoics adopted & greatly admired it.

The School of Epicurus rejected immortality -

The opinions of the Stoics were on this subject wavering & uncertain.

Panaetius, the founder of Roman Stoicism, maintained that the soul perished with the body.

The doctrine of retribution respective of reward did not encourage belief in a future world - though some stoics did so believe - that is, in one which would last until the conflagration when all would be absorbed into the parent deity.

Seneca contradicted himself on this subject - Marcus Aurelius never rose beyond a vague & mournful aspiration.

Pagan antiquity has left us few nobler treatises of morals than the De Officiis of Cicero which was avowedly an expansion of the work of Panaetius. It has left us no grander example than that of Epictetus, the sickly deformed slave of a master notorious for his barbarity; enfranchised late in life, but soon driven into exile by Domitian; who while sounding the very abyss of human misery & looking forward

to death as to simple decomposition,
was yet so filled with the
Sense of the Divine presence
that his life was one
continued hymn to Providence,
and his writings & his Example
which appeared to his contemporaries
almost the ideal of human
goodness, have not lost
their consoling power through
all the ages and the vicissitudes
they have survived.

The desire for posthumous
reputation — 'that last
infirmity of noble minds —
(Tacitus had used this
expression before Milton:
'Quando etiam sapientibus
cupido gloriae novissima
exuitur —' Hist. iv. 6.)
assumed an extraordinary
prominence among the
springs of Roman heroism,
and was also the origin
of that theatrical &
overstrained phraseology
which the greatest of
ancient moralists rarely
escaped.

The great men of Rome nevertheless through a sense of duty often opposed the strong current of popular favour — ex. Fabius — Cato. The writings of the Stoics are crowded with sentences to the same effect. 'Nothing for opinion, all for conscience' (Seneca)

Marcus Aurelius, following an example that is ascribed to Pythagoras, made it a special object of mental discipline, by continually meditating on death, & evoking by an effort of the imagination, whole societies that had passed away, to acquire a realised sense of the vanity of posthumous fame.

Nor were the Stoics less emphatic in distinguishing the obligation from the attraction of virtue. It was on this point that they separated from the more refined Epicureans.

There are two great divisions of characters corresponding very nearly to the Stoical & Epicurean Temperaments - that in which the will predominates & that in which the desires are supreme. A good man of the 2nd class is one who is so happily constituted that his sympathies & desires instinctively tend to virtuous ends. The first is admirable, the second in the truest sense has a real charm. We have ∴ two distinct theories of educations, one to strengthen the will, the other to guide the desires. The principle examples of the first are the Spartan & Stoical systems of antiquity & with some modifications the asceticism of the Middle Ages.

Conversation with Paul Dougherty
my beloved master . . January 14, 1935

Art is (as Aristotle said) The imitation of nature - here imitation is used in a very fine sense. Everything is contained in nature except The key to it - which is within you. After a sufficient evolution before nature you are ready to unlock The door. The problem is to relate those things in nature which best coordinate with your peculiar sensitiveness, to that sensitiveness & your expression - in other words The problem is one of a kind of fusion. There is an interesting moment which comes when The artist emerges from the vague indication of feeling to The combining of passion and mind. When he looks at a wave - or a scene or anything in nature. he says - "my God - how beautiful" - and at the same time he is already defining the turn of the lines & searching for those forms which seem to best indicate that beauty &

tell its story in relation to his own vision. Passion is already passion in retrospect. Then his expression becomes more effortless and full of a greater clarity - and he sees the ambrosia of external beauty at least - & is able to reproject creation. The difference is between the sensitive plate and the developed plate.

The question of light: — The sensuous feeling for pigments & the true understanding of ones materials. In nature there are some lights which though in the distance come forward to you & jangle in your brain. There are others into which you look deeper & deeper & which seem to suffuse rather than to emanate from an object. Those pigments which seem to have the greatest chromatic intensity on the palette do not always produce the expected result. Rather than their very

coarseness & insistence they defeat their own purpose.

Some works of art are not necessarily greater than others - say - of the same master, but they seem to have a fuller orchestration - i.e. Rembrandt's 'night watch' - or Signorellis' "Pan & his companions" - Signorelli as one of the great designers of all time.

Sargents remark - "The old masters produced pictures which all could understand though no one could tell or knew how they were made, but the moderns produce pictures which no one can understand - but all can see how they are made!" -

For panel work out of
poplar panels
doors — or mahogany
canvas stretched

1 .. drawing
2 .. mastic & turps & color
Glaze - varnish
3 - wait till it sets
4 - mastic mixed well with
white - whites & lights
5 oil color - spotted
6 - drag it together where
needed

Sometimes on canvas - depending
on weather - lay a coat
of pure green on the
night before -

Sometimes prepare a panel
with spotting of white black
blue & a few yellows
& reds to produce
a vibration & then work
the next day -

Or prepare in a general
way & the subject to
anticipated —

technique for a large picture—

grind heavy white lead with mastic & oil - thinned with turps if necessary & put away in jars—

& heavy spar varnish

also grind a brown
black
blue
yellow (ochre)
earth red

lay in a picture with a knife & full brush—in a large way—
(after a good design) •
& scrape & lift & pile on according to surface penetrations & convexities of the forms—

Let dry thoroughly put on a glaze—
work into that with ~~same~~ ~~as first~~ & lay in work scumbles

Degas -

"The thing is to surround a patch of venetian red so that it looks like a patch of vermilion ——

to pull color
gradations through.
let dry -
glaze & then spot
for final effect with
a full brush -

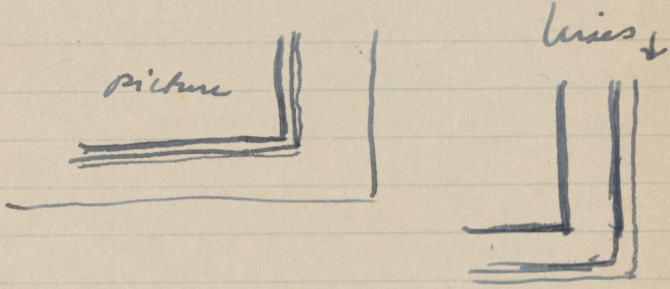
Try grinding prussian and
ultramarine for a strong &
resonant blue - (with some mastic)

An intermediate
medium for use on
a dry layer when
you wish to continue

mastic - turps - linseed
then surplus wiped off with
a rag & worked into
wet.

a good mattring for
prints or lithographs taken
from the early french journals
such as those which carried
the Daumiers —

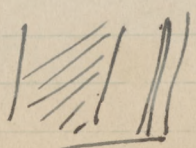
mat
a neutral grey with
brown in dia ink lines



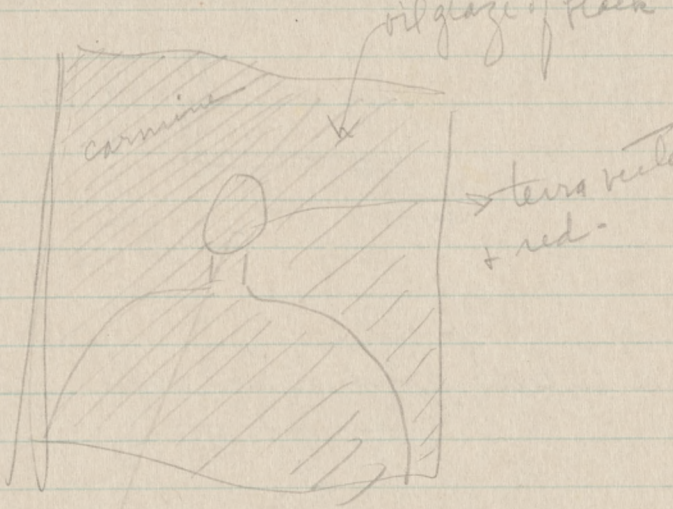
frame —
a dull gold leaf over red clay.

or for sanguine drawings
a dull green mat with
a red gold frame —

and sometimes a gold leaf
border on the mat around
the picture, or another
value of the same tone as
the mat in a wide
border —



varnish tempera underpainting



brightening with Tempera whites

terra verte warmed by a red underpainting

El Greco —

In Toledo -

The Grecos - portraits in The museo del Greco - on wood -

marvellous technique - loose yet firm - fine use of blacks & carmine in the shadows - with whites & yellows in the lights -

fine greens - cool schemes

marvellous portrait of Judas - story in expression in - orange - cold blue - white & a dark brown background -

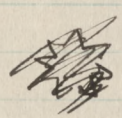
whites ~~dusky Cools~~ loosely painted over a warmish red base - warm edges left to melt into background - which is a glaze of black over carmine - Even the flesh is painted loosely & scumbled in white or yellow white over the same warm base. The shadows are blackish & terra verte in the flesh - & terra verte in the whites of the drapes. The terra vertes are of course warmed by the red underpainting carmine accents are put over the fingernails etc. The glazes & scumbles are

in oil, ~~it~~ Oil Emulsion The underpainting was probably a medium. Lots of carmine ~~in~~ giving a cool effect to the flesh.)

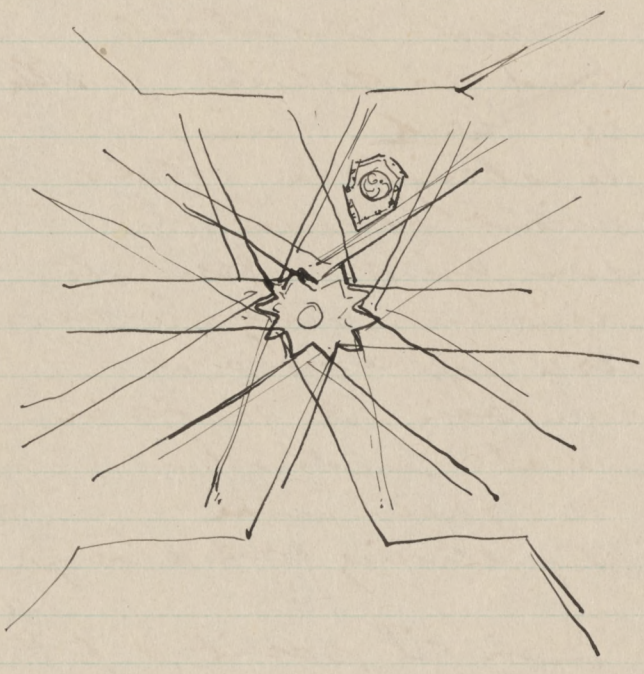
---

a head of yellow-whites — in lights faint ~~green in~~ terra-verte in half-tones — carmine in local spots + black shadows — all skillfull brushed over the usual tufted underpainting with a slight impasto in the lights.

Sometimes an effect of hatching —

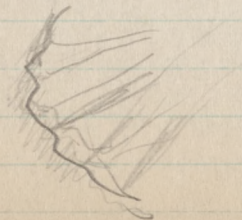


basis of
moorish ceiling
in Greco
museum



The contours of the El Greco portraits in the Prado where the flesh forms come into contact with the white ruffs - seem to be drawn in black or at least a qualified black. against which the ruffs are most sensitively rendered as whites, with greyish black lines indicating the folds. This idea might be useful in building up a simple manner - using a more modern expression - I could retain a certain Technical method - miniature lightening with a tempera white resin oil paint + final glaze

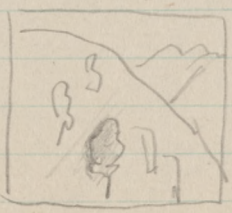
using the blacks + whites with great effect, as they already exist in both + sea forms.



In the Prado - There are some very excellent Titians which I vowed prefer to the Venus of Urbino - also the Rafael portrait of a Cardinal in red - These beside the Spaniards - Greco, Goya, Velasquez, Ribera - Murillo - Zubaran - & and one or two excellent Primitives, make up the Glory of the collection - The entire museum is exceedingly well hung

In Toledo the Burial of Count Orgaz & the Expulsion of Greco I like better than the more flamboyant ascension of the Virgin.

In Madrid the Goya Chapel with Frescoes -



The Columbian Tradition
on the Discovery of America
and the part played therein
by the Astronomer
Toscanelli -

Oxford - Clarendon Press.
1920.

A memoir by Henry Vignaud
addressed to the Professors
Hermann Wagner
of the Univ. of Göttingen
& Carlo Errera
of Bologna.

... to prove that Columbus did not
intend to reach the land of
Spices but was intent on the
discovery of new territories.

Las Indias being perhaps the
Antilles - not the East Indies.

Examination of documents
and references to the
Indies as object - esp.
the contract with C. & F.
which refers to new territories
& not to the East Indies

The only evidence is statements of Columbus, Fernando & las Casas — & there is no mention of this object in the contract. Nor did anyone else prior to 1493 know of this object.

It follows from the evidence that Columbus asked the Catholic kings for ships with the intention of sailing in search of islands already known to him, & not of undertaking the discovery of a new route to the East Indies.

& weighing anchor —

" When, said he, " you have made 700 or 750 leagues westward of the Canaries you must no longer carry on at night, for at that distance land will be seen.

He kept to the 28th // & refused to leave it until he knew when he despaired of finding

land on that coast & consented to change his course in response to the entreaties of Pinzon.

It seems reasonable to infer that Pinzon's needful help was only obtained on the condition that the projected cruise should also include a search for Cypangu (Japan) & that in order to satisfy him Columbus had obtained a letter addressed to the Great Khan - the supposed lord of that Asiatic region in which that island was situated.

Later on there was a revolution in the ideas of Columbus in favor of a search for the Indies - He turns south at the persuasion of Pinzon & comes to Haiti. Only on the eve of his arrival in the Antilles did he consent to look for the Indies. From then on he acted as though he were in Indian seas.

the reduction to 130° of the unknown maritime space to be crossed - supposedly made by Toscanelli - an estimate which no really learned astronomer of the time could have countenanced. Ptolemy had already exposed this error of Marinus of Tyre, a geographer of the 2nd century.

The true extent of the habitable world as known to the Greek Geographers was 70,000 stadia - the entire circumference being 250,000 stadia - according to Hipparchus & Eratosthenes - these measurements were accepted by Strabo, Pliny and other equally competent authorities

Posidonius, a greek astronomer, of the 1st century B.C. was highly esteemed also by these authorities, but the error can be traced to a choice in measurements which he pointed out but did not affirm — rather he

indicated means of measuring the Globe, than made the measurements themselves.

The World maps of the middle-ages such as those of Bianco of 1436 & 48, that of Genoa of 1447-1457, & that of Fra Mauro of 1459 - are exceedingly difficult to read.

In the learned map Toscanelli is supposed to have made Asia is placed close to western Europe.

The forgery of the documents attributed to Toscanelli would not be prejudicial to Columbus - Their truth would deprive him of the credit he most prized. i.e. that of being the first to seek a route westward to the Indies. Why did Columbian sources produce these documents, then, without apparent necessity? Their production was rendered necessary because the discoverer's purpose was only the discovery of unknown lands - Therefore on his return & subsequently he found it necessary to claim he had always intended to reach the East Indies.

Popular opinion damaged him after his voyage by saying that he only discovered an island that some pilot had already told him the existence of.

As for Columbus. he discovered the very lands which he went out to seek, lands the existence of which he ascertained by his studies, his meditations & his constant inquiries. a Columbus of that type is far superior to the Columbus of tradition, who, ignorant of what he has really accomplished, imagines that he has reached the East Indies, and who mistakes savage isles peopled with naked barbarians for that rich archipelago whither people went to obtain the very precious spices which Europe required -

J.K. note: he might have thought the islands were

Toscanelli's fame is not lessened by not attributing to him such Geographical aberrations!-

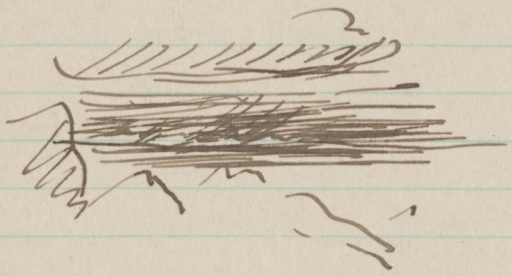
The front guard of the real asia- as he later hunted for the mainland.

Columbus' design resulted from a long & persevering inquiry among pilots & seafarers who could inform him of the real value of all the information he acquired in every direction respecting the existence of distant lands afar off in the western ocean. It took a penetrating & enlightened mind, to draw ~~Exp~~ conclusions which experience would justify. Columbus discovered America because ~~the set out to look for it~~ he had divined its existence & because he set out to look for it until he had found it. Toscanelli had nothing to do with that great Event.

southern-

on the horizon on a stormy or moving afternoon-

flashes of light of wavering shapes just before a real fall or streak of light on the horizon-



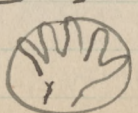
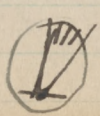
André Derain July 20, 1935

Drawing is the vessel and painting is the liquid it contains.
+ obvious corollaries

form travels from the interior to the exterior.

draw always; never let an idea escape you - once you have it bear down upon it + realize it immediately. once gone it is hard to catch it again.

mathematical researches into average proportions are very helpful and they greatly expedite work, especially with regard to the human figure you carry them in your head - + of course do not refer from the diagrams - but from that knowledge you carry about with you - enabling a rapidity of work with the figure + portrait.

etc. etc.

The importance of angles &
The search & study of them
in nature - proportion &
mathematics. In your
composition the angles
must be so arranged
that none could be
moved in the slightest
degree without upsetting
the mathematical proportion
of the composition.
Studies of trees to
illustrate this & the form
will take care of itself
if you have the
correct attitude.

The composition works
because of the function of
the spaces & their
proportion - The great
fault of the cubists
was disproportion &
enlargement of the object -
The spaces disappeared &
the result was nothing
at all.

To copy Picasso is to
copy 1912 —

The surface form is the
epoch but not the art.

The use of a fine smooth canvas.

little things are nothing — work on the final large scale is what counts.

The Egyptian proportion.

Evolution of the individual & acquired secrets.

The black boats on the yellow beach — mathematical proportion.

reduce to pictorial proportion the cosmic scene.

work always & ceaselessly.

Begin studying a country by drawing carefully its incidents. It takes at least a month to be able to begin real work with a new country.

It is not necessary to traverse
The issues -
fine researches into a
color - brown & grey -
black yellow & white

Soi-même

The means must not
be apparent.

A drawing on the canvas
should be complete - The
paint functions only to
draw the drawing out.

researches into the
hot colors of the flesh
especially head & lips
& the hot foregrounds of
landscapes - a peculiar
hot straw red - a
reddish - golden straw -
& yet it is so recherché
& clear that it is
not too hot in

effect, & far from producing
alterations & dooliness it
makes for clarity.

. . . . .

The dark
upper edge of the lip is a
strong sienna red – the
reflected light cooler & lighter –
The flesh golden

Casein technique -

for example.

over a dry oil painting lay
transparent glazes. Then lay into
them when still wet a white
made of -

good set egg ~~white~~ tempera white
or an egg white

mixed with
casein (cold water casein)
white -

This has a real cold fire.

scumble thinly in strokes of
desired ~~wet~~ half tones etc.

over this white a glaze of
ochre - (Roman or golden) will
warm the whole thing -

proceed in oil as.

Bibliothèque Nationale —
Paris —

A study of some of the
in-folios of Rembrandt
revealed a considerable
number of drawings, most
pen and wash, of which
I had not before been
aware. Some of them
were done in an interesting
simple style — The Jacob
Series — The line was
angular & simple. I
believe the latter were
sketches in eaux-fortes —
Also an etching plate
a crucifix in very
impressive with storm
rays descending from the
sky & a considerable
amount of black — and
many small landscape
studies — & quick figure
notes — no marines.

George Rowneys Co. Ltd.
10 & 11 Percy St.
London, W. 1., England.

{ cobalt
{ venetian
{ ochre
payne

{ al. crimson
{ indigo
{ Hath
{ ochre

{ Cyanine over light red -
{ Black "
To
Veridian " ochre

do not mix aureolin with
madder & ultra ?

W.C. Black
umber
ultra
cobalt
cerul
white
verid

ochre
cad yel
Cad red
Lt red.

The beauty of the light and tones that occur immediately after sunset - really a study in reflected light -

The various possibilities of tempera semi-opaque tones to produce certain foam areas +

Tempera as an underpainting for oil +

The use of tempera to heighten an intention of austerity + simplicity -

flat straw tones of fields after sunset - + bleaches + yellows of rocks + pebbles of foaming whites.

Vincent Van Gogh
by Julius Meier-Graefe

Harcourt - Brace -

From Marxism by Murray, Macmurray
Holdaway + Cole

Chapman + Hall Ltd. London -

" (approx.) -"

Mind is a reflection of the relations between men as men + their environment. These are social relations; ∴ Theory + practice are one.

* * *

The Theoretical basis of every willed, i.e. purposive action is an abstraction from realit. The test of the validity of the abstraction is the success of the action based on it. Action proves that realit is of such a nature that abstractions can successfully be made from it. These may be made with varying degrees of consciousness. And since these abstractions are mind, we say

That mind is capable of varying degrees of consciousness. A perfectly correct abstraction would mean complete consciousness on that point & completely successful action. Abstraction acquires validity by successful prediction. The incorrectness of an abstraction is the objective form of what subjectively is unconsciousness of the nature of reality.

n.b. What a sentence for the artist - & especially the contemporary one!

See Hegel; Feuerbach - philosophy

Shelley:

As to imitation, poetry is a mimetic art. It creates, but it creates by combination, and representation. Poetical abstractions are beautiful and new, not because the portions of which they are composed had no previous existence in the mind of man or in Nature, but because the whole produced by their combination has some intelligible and beautiful analogy with those sources of emotion and thought and with the contemporary edition of them. The great poet is a masterpiece of Nature which another not only ought to study but must study. He might wisely and as easily determine that his mind should no longer be the mirror of all that is lovely in the visible universe as exclude from his contemplation the beautiful which exists in the writings of a great contemporary. The pretence of doing it would be a presumption in any but the greatest; the effect even in him would be strained, unnatural and ineffectual.

From 'Art as Experience' by John Dewey

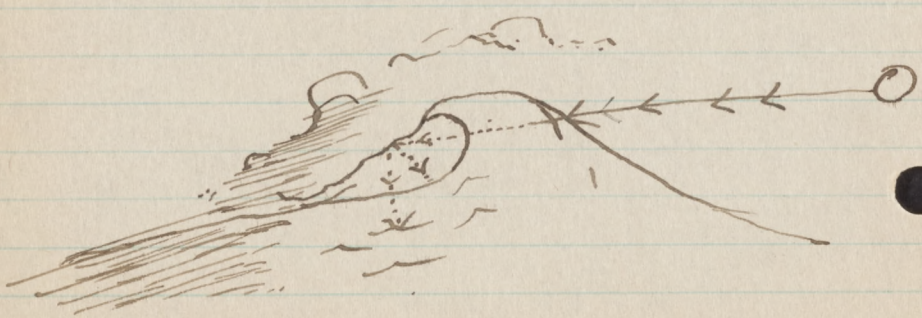
The distinguishing contribution of man is consciousness of the relations found in nature. Through consciousness, he converts the relations of cause & effect that are found in nature into relations of means & consequence. Rather, consciousness itself is the inception of such a transformation.

"Art is not an imitation of nature,
but it is the image of nature
obtained through artificial means."
Nijinsky

Each limb made a different movement
& followed a different rhythm -
triumph of angularity &
post-impressionism.

idealistic & personal
transpositions.

When a wave advances with the source of light behind it as it breaks you will notice that the water light penetrates the near green wall of the breaking wave. so that that element is full of fire & light, but that the advancing part of foam is correspondingly in the cool shadow. However the light falling upon the near wall of water hits on the inside of the advancing foam fall and is reflected back into the front plane of clear water. & also is diffused inside the curl between the advancing foam and the near wall.



cotton soaked in thinned emulsion to paint with - dry colors & water mixed in emulsion & set -

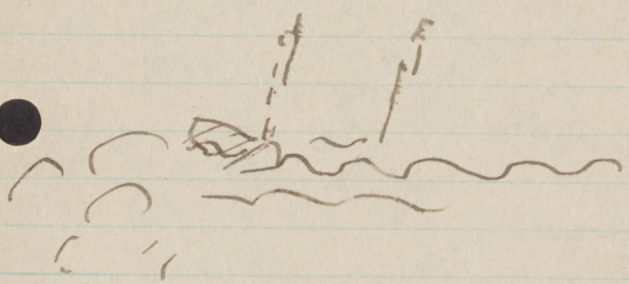
2 eggs to 1 tablespoon valspar varnish -

add water.

lithopone & casein glue to make a Tempera ground.

The pigment in an emulsion is eventually protected against deleterious outside agencies by a sort of osmosis (perhaps a species of radioactivity) occurring between the water soluble & the oil soluble quantities in the emulsion, so that when the water evaporates each granule or molecule of pigment is surrounded by a covering that protects it. This is probably an osmosis of the oil soluble element - acted on in some peculiar way by the water.

on the top plane (I am
advancing wave freaking
or broken one notices
cone shapes advancing &
retreating in long ripply
sections. Where two meet
going in opposite directions.
They squeeze the water
between & water being
practically a non-compressible
element - it rises
vertically in cones



Science + First Principles - Northrop of Yale

The Greek theories -
Thales: "all things are full of gods".
= the coming of science

1. The Physical theory.
Thales — The real is physical
Heraclitos — + changes
Parmenides — The real is being

Leucippos — kinetic atomic theory
absolute space

2. Plato — The mathematical theory
Pythagoras - the real is number

3. Aristotle - The functional theory of nature

Empedocles - the 1st theory of the organism

1 The real is physical
2 The real is rational being
3 " " " "
4 " " " " becoming.

Entelechy - actuality succeeds potentiality

epistemology - the theory or
science of the methods & grounds of
knowledge, esp. with ref. to its limits
& validity

teleology - design - rat. purposive
adaptation

1. The physical theory -
corollaries:

A. The principle of identity
B. priority of eternity
C. mechanical causation
D. all non-spatial relations
are effects of atomic motion
E. a referent. i.e. space

2. Mathematical theory.

A. mechanical causation
B principle of identity
C only relations are causes
D. The method of hypothesis
E. The real world is suggested
by but not contained in the
world of sensation.

3. The functional theory.

A. teleology
B method of abstraction
C real world is contained
in the world of sensation

D. matter & form are attributes of a process or "event" of dynamic type of substance.

E. The real individual in nature which is the dynamic substance of process or "event".

Thomas Aquinas shifted the theology of the Catholic Church from Platonism to Aristoteliamism.

Galilei & the dominance of the physical theory of nature. His discoveries came to articulate & formal expression in the mechanics of Newton.

The principle of inertia — which necessitates a definition of straightness & the fact that matter is dynamic & dualistic in character.

With Aristotle & Descartes matter is inert — with Galilei & Newton it is dynamic.

The rise of chemistry & Lavoisier discovers the conservation of mass — order & related laws with Mendeleev —

Biology after aristotle + galen
Darwin + organic evolution
rebuts aristotles fixed form.

optics identified with electro-
magnetics — or at least linked.

The two laws of thermo-dynamics.
1 — conservation of energy —
2. the entropy of the universe
tends towards a maximum
(entropy = amount of
unavailable energy of the
universe) —

discontinuous theory of energy
as well as matter + electricity —
i.e. Planck's constant — h

$E = \nu h$

Energy is corpuscular.

any initial or Galilean frame of
ref. will do — as there is no
means of distinguishing between
rest + motion in the case of
bodies that are in uniform
rectilinear motion relative
to each other = principle of
relativity for Galilean frames
of reference.

Nature is seen thru Galilean frames.

It is the great achievement of Einstein to extend the principle of relativity so that it applies to any frame of reference whatever.

Classical physics —: at the opening of 20th century
in General Theory, Space was absolute but in actual practice it was relative for Gal. frames of ref. but was absolute in both theory & practice for non-Gal. or accelerated frames of ref. time was regarded as an endless 1 dimensional series of instants - mass was inertial & gravitational.

The ideas of Young, Fresnel & Faraday came to unified mathematical formulation with Clerk Maxwell & to exp. verification with Hertz. Optics & Electricity & magnetism appeared as as expressions of a single physical mechanism: the transmission of electro-magnetic waves of diff. lengths in an absolute continuous medium called the ether.

The capacity to determine whether the Earth is at rest or in motion by means of an experiment on or within it meant that the principle of relativity did not hold for electro-magnetics. This consequence also exhibited itself in the fact that its laws for a given phenomenon took on a different and simpler form if observations were referred to the ether, than they did with any other Galilean or non-Galilean frame of reference.

The Lorentz-Fitzgerald contraction hypothesis specifies that a body moving thru ether contracts in the direction of its motion according to -

$$\frac{\text{orig. length}}{\text{contr. length}} = \frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$$

c = vel. of light - poss. to perceive only in a rigid observation - this was to meet with the difficulties of the Michelson-Morley results described later.

A Cartesian system of coordinates may be defined as a 3 dimensional system of lines referred to a common zero point & obeying the rules of Euclidean geometry.

It is essential for an understanding of the difference between the special & general Theories of relativity that one knows what is meant by inertial or Galilean frames of reference. They may be defined as a system of Cartesian coördinates attached to a motion body which satisfies the principles of inertia. Frames undergoing rotational or non-uniform motion are known as non-Galilean frames.

The principle of relativity is not the theory of relativity, but a commonplace rule of Newtonian Science. It was discovered by Galilei and appeared in Newton's Principles as a corollary to his three laws of motion.

The experiment which was to reveal the velocity of the earth relatively to the ether was performed by Michelson & Morley. It produced however negative results when the eq as well equations had required positive ones.

Lorentz decided to retain

all the traditional ideas and put Maxwell's equations into such a forms that no possible more refined experiment of any kind whatever should be able to detect the velocity of our earth relatively to the ether. Note what the last part of this involves. It means in practice that the principle of relativity for Galilean frames of reference holds for electromagnetics as well as mechanics.

It now brings us to Einstein & the Special theory of relativity.

Einstein -

With one stroke in the special theory he removed absolute space, absolute time & absolute ether to substitute absolute space-time.
In the general theory he removed abs. space-time & absolute gravitation to leave nothing but matter & a certain math. formula termed the tensor equation for gravitation,

which specifies how the properties & distribution of matter determine the metrical structure of a variable & hence relative Riemannian space time.

The Special Theory: —

He decided that the principle of relativity for Galilean frames of ref. applies in electromagnetics as well as mechanics. He adds a 2nd postulate: the absolute velocity of light in vacuo. Third he affirmed the principle of the relativity of simultaneity of spatially separated events. 3 follows from seeing contradiction of 1 + 2. The result denies the existence of absolute ether.

The result of the contradiction in electro-magnetics was the principle of the relativity of time — just as the contradiction of stuff & change revealed by ~~Zeno~~ Parmenides drove Leucippos & Democritos to the introduction of a referent for atomicity & motion & the kinetic-atomic theory.

According to the absolute theory of time in classical science - nature was conceived as a 1 dimensional series of instants. Such as an endless series of // non intersecting lines -

——— ——— ——— ——— ad infinitum

Which means that the observation of one instant event from one frame of ref. will be the same for all frames - but einstein proves a large number of diff. series so that the observation is relative to the particular frame of ref. This was the interpretation of Lorentz's local times due to his contraction in time as well as space to account for lack of revelation of strains necessary to offset effects of contraction of materials.

Only when two events are spatially coexistent can we give an observation of simultaneity.

Two spatially separated events are simultaneous when the light rays from both leaving upon their occurence, reach a point equidistant from both at the same time. The simultaneity of spatially separated events is defined in terms of spatially coexistent events, & motion. Time must be defined in terms of motion, & the theory of relativity is a physical theory. In the doctrine of time as Einstein formulated it the physical theory of nature & motion is presupposed. The validity of the proof rests on three things: the definition for the time of spatially separated events in terms of physical motion & propagation & immediately given coexistent events, the assumption that the velocity of light is finite & constant & the same for either or any frame, & the principle of relativity for Galilean frames of reference.

absolute ether is dependent of matter does not exist
absolute space does not exist

The relativity of measured mass & the hypothetical equivalence of mass & energy follow. The most essential contribution of the special theory is the union of space & time. For if there is no meaning to time except as one specifies ones location, & if the relativity of time entails the relativity of space. Then space & time are in escapably bound together. Since the 4 dimensional manifold is Euclidean or semi-Euclidean & never changes its metrical uniformity or properties, it may be said that the space-time of the special theory is absolute. But the special theory holds only for Galilean frames. ~~Does not~~. Do not these laws hold for non-Galilean frames as well - they should to be compatible with natural processes which continue regardless of the frame we use. The question & answer which gives us the general theory of relativity -

The General Theory of relativity

The theme of relativity physics is motion. The generalization of the principle of relativity is the expression of a quest for the absolute. The subject matter of the science to which the general theory applies is ~~matter~~ the motion of masses, the science is mechanics. The general theory like the special presupposes absolute motion. It became evident that classical science provides the justification for regarding the same mass as an inertial system relative to one frame, & an accelerated or gravitational mass relative to another. Gravitation becomes relative. The unrestricted theory of relativity produces consequences. In other words the geometrical continuum which we supposed, both in Newtonian mechanics & the special theory of relativity to be the absolute background of natural processes is not objective at all, but has its basis solely in the relation of moving masses to the particular physical object which we pick out as a reference body.

Not merely the space & time readings but the metrical & geometrical rules themselves, which we use to coordinate & relate those readings, are relative.

[syllogism = a logical scheme of a formal argument]

The point is that the implications which mathematics asserts hold for any entities whatever. It becomes evident ∴ that it is ridiculous to conceive of our universe in terms of the relations of matter to a geometrical continuum, as it would be to conceive it in terms of the relation of maths to the syllogism. For a continuum is not an existential entity which can stand as the necessary referent for atomicity & motion, but is a set of implications.

However Einstein failed to provide a new non-mathematical referent. which, as the Greeks showed, was necessary - hence many contradictions etc.

There is ∴ only an inertia of masses relatively to one another.

[chrono = form from Greek - i.e. time]

The acceptance of the unrestricted principle of relativity forced Einstein to the conclusion that both gravitational fields & geometries are relative. Both can be put out of existence in certain instances by a suitable shift of coordinates. Therefore a new formation of the laws of mechanics was necessary. The pure mathematicians worked with Einstein to produce the required tensor i.e. - logical form for the laws for physics.
The tensor, the values of the variables of which will define a relative space-time and remain invariant in form for all possible transformations, or in other words for any shift of reference frame, is determined completely by the number of dimensions of the metric which appears in a given frame.

Furthermore the tensors for the different dimensional relative space-times are defined by the number of variables & termed g_{ik}'s, which they contain. One containing 4 dimensions would have 10 g_{ik}'s - ∴ Einstein produced the tensor

$$ds^2 = \Sigma g_{ik}\, du_i\, du_k.$$

$du_1, du_2 \ldots du_4$ represent the differences between two points infinitely close together, in each of the four Gaussian coordinates & the numbers which prescribe the relations between these values at a given point are designated by the 10 g's, — g_{11} & g_{12}, g_{13} etc. termed for short g_{ik}'s - Mathematics also informed Einstein that when these 10 g_{ik}'s take on the specific values in a given frame of 0, −1 & +1 in a certain fashion, the frame in question is Galilean & its metric is Euclidean; when any other values appear the metric is Riemannian & the

frame is non-Galilean. A shift from a Galilean to a non-Galilean frame of reference entails not only the replacement of a Euclidean with a Riemannian metric, but also the introduction of a gravitational field. ∴ gravitational potentials & the g_{ik}'s which define a Riemannian metric are identical. Riemannianism exhibits itself in the distribution of potentials of the gravitational fields which goes with our frame. " Thus according to the general theory of relativity, gravitation occupies an exceptional position with regard to other forces, particularly the electro-magnetic forces, since the ten functions which define the gravitational field at the same time define the metrical properties of the space measured. Einstein knew that an adequate law for gravitation must ∴ contain 10 potentials, instead of one in Newton's law. Galilean frames & their Euclidean metric should be regarded as a limit which

(only exists in an ideal sense -
approximately a fixed star - +
isolated!) This means that
actually there are only non-
Galilean gravitational
frames.

Sept. 22, 1932 W. Beebe recorded a dive to a depth of 2200' in the bathysphere - Among observations: Intense blackness, an unexpected abundance of fish, of large sized crustacea & other invertebrates, the visibility of many by their own lights, the large size & complete lack of phalation of the individual illuminants; Color of lights; brightly illumined fish up to 6' in length.

halation: a spreading of light beyond its proper boundaries.

Dr. A. Coomaraswamy -

Art + Thought -

The measure of the Beloved under the thin veil of forms.

The world of our dreams at night is also based on the validity of the fabrications of the senses but is not so conditioned by the outer forms of illusion.

intimate relations between the work of the artist and the general operations of creation -

The work of art succeeds only if it results from perfect communion of the artist with the divine idea causing the object to assume its actual form - Thus any particular object natural or artificial suggests not only its ideal archetype + the sacrificial act which brought its actual precipitation, but also + above all the immanent source of consciousness constituting the universal background -

The essence of Brahma is not only above time + space, but even above being + non being -

In this view every active human expression is an act of creation - "vrata" a sacrificial operation in which the actor "renders holy" his work in the measure in which he consciously identifies it with the Divine creative operations in deliberate self-subjection -

with mediary sacrificial channels - conforming & conditioning the creative power of the One -

Spiritual power - functioning through the Voice or Word - associated but distinct aspects of Deus - the Transcendant Brahma -

∴ 2 kinds of art - servile copies of appearances + ideal works inspired by immediate intuition of the immaterial form which is the cause + raison d'être of the model - Nature in its essential reality should be distinguished from the results of its operations - western & Eastern art differences

centro- focused awareness
of deep sleep-

Form is the discipline imposed on the universe by the hidden God - They will, not mine, is good aesthetic as well as moral law. .... For what is technique but a net, laid to catch all the truth it will hold? and if the net be too apparent, the truth that is shy and elusive is not caught - I - Significance of experience - It is nonsense to talk of mere realism. Appearance is dynamic not static -

Hardy notes a distinction between the twilight of dawn & sunset. 'The degree of light is equal exactly, it may be, at both times: but at dawn the bright element is active and expectant and the shadow passive and quiescent.

Degas: "It is not difficult to get life into a six hours study, the difficulty is to retain it there in sixty".

The Medici, and their connection with the Revival of Art and Learning

ruled

1400-1418 Giovanni di Bicci -

one of the judges in the contest for the Baptistry Brunelleschi -
enables Brunelleschi to build the Ospedale degli Innocenti
and the church of San Lorenzo
Assists Masaccio

1434-1464 Cosimo Pater Patriae

Bronzino	Luca della Robbia	Mino da Fiesole
Michelozzo	and Rhus -	Rossellino's
Brunelleschi		Settignano
Donatello		Pollajuolo
Fra Angelico		

The Eastern councils & importation and visits of scholars
Platonic Academy

1464-1469 Piero, il Gottoso and Lucrezia Tornabuoni

Botticelli	1st period	Mino da Fiesole
Benozzo Gozzoli		Luca della Robbia

1469-1492 Lorenzo, the Magnificent -

Botticelli	2nd period	
Pollajuolo	Signorelli	Michelangelo -
Verocchio	Lippi	
Ghirlandajo	Castagno -	
da Majano	di Credi	

Pico della Mirandola (scholar) added much to
Founded & developed the Medici Library
University of Pisa

Machiavelli

" Quanto bella giovanezza,
Che si fugge tuttavia
Chi vuol esser lieto, sia;
Di doman non c'è certezza"
Lorenzo

1492 Pietro the Unfortunate -
1494 Banished -
portrait by Botticelli

Interregnum & the influence of Savonarola
1494- in Florence - Reform -
1512

Fra Bartolommeo -
Di Ludi & two della Robbias became Priests
Botticelli painted only when inspired by
his sermons etc
Influence also on Michelangelo

The Borgia Popes -
the tenth turning of Savonarola under
the instigation of the Pope.

Botticelli fixes on whole attention on the
Subject not on the painter -

Later after Michelangelo this is not so true.

Botticellis last period resultant from
horror at Savonarola's death &:
The 'Calumny' -
Illustrations for Dantes Inferno -
'Nativity

Tuonela

La Musique selon Albert Lavignac
Professeur d'Harmonie au conservatoire de Paris.

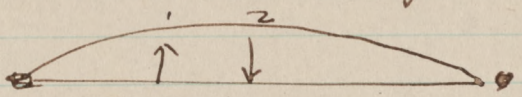
Le son n'est qu'un phenomene vibratoire.

Selon les travaux les plus récents, les vibrations sonores, c'est à dire perceptible par l'oreille, varient de 32 à 73000 par seconde.

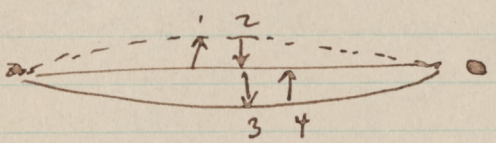
Les vibrations sonores sont les plus lentes de celles qui affectent nos sens. 32 à 8,276-

Grand orgue trente deux pieds a la plus petite flute.

une vibration simple :



une vibration double :



Le monocorde est attribué à Pythagore —

et prouve que les nombres de vibrations des cordes sont en raison inverse de leurs longueurs.

les nombres de vibrations des cordes sont en raison inverses de leurs diamètres.

Les nombres de vibrations des cordes sont en raison inverse des racines carrées des densités.

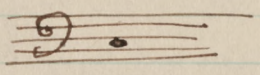
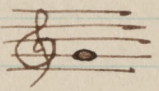
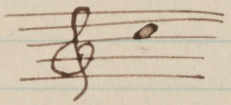
Les nombres des cordes sont en raison directe de la racine carrée du poids par lequel elles sont tendues.

Plus une corde est longue, grosse, lourde & faiblement tendue, plus ses vibrations sont lentes, & plus par conséquent le son est grave.

Plus elle est courte, fine, légère & fortement tendue, plus ses vibrations sont rapide, et plus par conséquent le son est aigu.

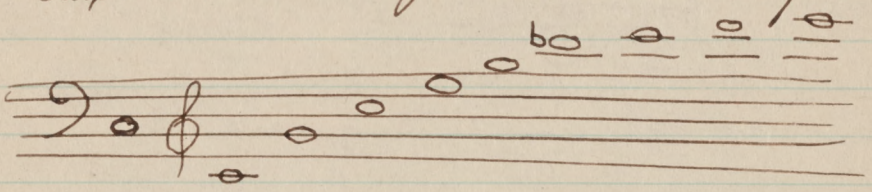
Le son ainsi produit par une corde vibrant dans toute son longueur s'appelle son fondamental ou son natural mais elle est apte à fournir aussi beaucoup d'autres

Sons, en se subdivisant pour vibrer, on les appelle sons harmoniques — ou obertones -

Le deuxième harmonique est à l'octave du ton fondamental
Le troisième harmonique du son ut -  est

Le son 4 est 

ou deux octaves du fondamental

Ceux sont les 10 premiers harmoniques:



théoriquement, la série des harmoniques peut être considérée comme infinie -

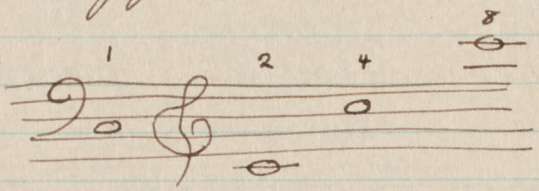
Les numéros d'ordre sont égaux aux nombres de segments vibrants, ou de ventres

Il y a toujours un noeud de moins que de ventres.

Le son fondamental, ne formant qu'un seul ventre, doit être considéré comme son propre 1er harmonique

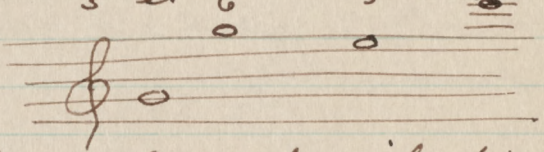
Pris dans leur ordre numérique les harmoniques vont toujours en se rapprochant, et forment successivement des intervalles d'octave, de quinte, quarte, tierce et seconde -

Les harmoniques 1, 2, 4, & sont en rapport d'octave.



& son on as the square (?) double

Il y a le même rapport d'octave aussi entre 3 et 6 5 et 10



Les nombres relatifs de vibrations pour deux sons en rapport d'octave = 1:2
" " de quinte juste — 2:3
" " quarte juste — 3:4
" " tierce majeure — 4.5
tierce mineure - 5:6
seconde majeure 8:9

on obtient le nombre de vibrations d'un harmonique quelconque en multipliant par son numéro d'ordre le nombre de vibrations de son fondamental.

Jamais une corde ne vibre dans sa forme la plus simple, mais à son grand mouvement général dont s'adjoignent toujours plus ou moins des mouvements partiels (ou harmoniques) c'est même possible que les harmoniques s'évoquent premièrement et en s'additionnant engendrent le mouvement général dont seul nous avons la perception nette.

L'intensité des sons dépendant de l'amplitude des vibrations, l'intonation variant selon leur nombre — on est resté longtemps à découvrir ce qui pouvait bien produire les différences de timbre: c'est la forme des vibrations, autrement dit la coexistence, simultanément avec le son principal, de tels ou tels de ses harmoniques.

Et on conçoit la variété infinie des timbres en considérant que la moindre modification dans le mode d'ébranlement de la corde, ainsi que dans le point précis où elle est attaquée, est de nature à déterminer ou à empêcher la formation de l'un ou l'autre des sons concomitants.

Or, un son ne nous produit une impression agréable, musicalement parlant, que s'il est suffisamment timbré, coloré et caractérisé par la présence de quelques-uns de ses harmoniques. Théoriquement pur, il nous paraîtrait fade, sans timbre.

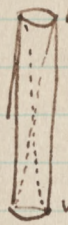
Un son riche ou chaud est tout naturellement accompagné par un certain nombre de harmoniques, dont nous n'avons pas la perception distincte mais qui lui donnent sa couleur caractéristique.

Mais les cordes ne sont pas les seules sources sonores – il y ont aussi les tuyaux et les plaques ou membranes.

Dans les tuyaux les vibrations sont aussi isochrones. (toujours de même durée –) ; elles varient selon la longueur des tuyaux ; elles se subdivisent, comme celles des cordes, pour produire des harmoniques ; elles ont des ventres et des nœuds et des différences d'intonation, d'intensité et de timbre reconnaissent pour cause des modifications de vitesse, d'amplitude et de forme ; ....

c'est la colonne d'air dans le tuyau qui vibre – et la détermination de la forme et des dimensions de cette colonne ~~fait~~ la fonction du rôle de la substance quelconque qui l'emprisonne. La substance dont est fait le tube sonore n'a aucune influence sur les vibrations – ses dimensions et ses poids font tout.

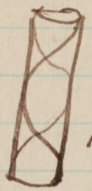
Il faut donc s'habituer à considérer comme seul corps sonore, dans les instruments à vent, l'air qu'ils contiennent - et pas les substances dont ils sont fait (cuivre bois etc.)
Il y ont des tuyaux ouverts à ses deux extrémités - et des tuyaux seulement ouverts à l'un d'eux. La vibration qui fournit le son fondamental dans les tuyaux ouverts se compose d'un seul nœud au milieu du tube et de 2 ventres.

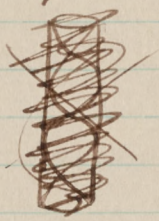


puisque le souffle vibre le plus à l'endroit où il se produit - i. e. l'extremité du tube.

Quand la corde donne sa note fondamental, elle est ébranlée par le milieu ; le tuyau, lui, est mis en vibration par un de ses bouts ; de là la différence de forme, qui entraîne nécessairement une différence de timbre.

Si on force un peu le souffle, on provoque la division de la colonne en quatre demi-segments avec deux nœuds - ce qui donne le son partiel 2



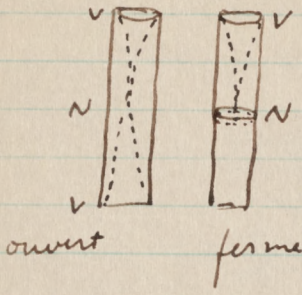


En soufflant plus fort, on obtient toute la série de harmoniques - deux demi-segments de plus et 4, 6, 8, 10 etc. nombre des vibrations augmentant 1, 2, 3 4, 5 etc.

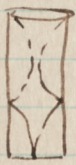
Plus un tuyau est long, plus le son est grave. En doublant la longueur on obtient l'octave inférieure - ce qui prouve qu'ici comme pour les cordes, le nombre des vibrations est rigoureusement proportionnel à la longueur du corps vibrant.

Le tuyau fermé fonctionne comme une moitié du tuyau ouvert.

Car l'extrémité fermée correspond à un nœud.

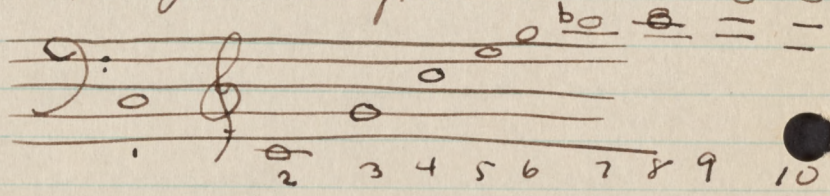


Le fond du tube fermé est toujours le siège d'un nœud, et la partie ouverte le siège d'un ventre.

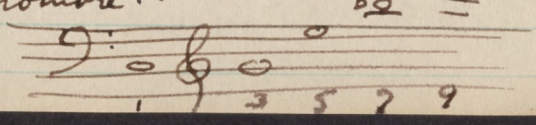


Le tuyau ~~ouvert~~ fermé est donc dans l'impossibilité de produire les harmoniques de nombre pair, qui exigent la présence d'un nœud au milieu de la colonne d'air.

Harmoniques d'un tuyau ouvert 1m,314 de longueur fournissant 258 vibrations pour son fondamental.



Harmoniques d'un tuyau ~~ouvert~~ fermé de 0m,657 de longueur — fournissant le même nombre.



La ~~meme~~ même nombre de vibrations produit la même ~~note~~ ton, mais une différence de forme produit (par les harmoniques) différence de timbre.

Le tuyau fermé du même longueur d'un tuyau ouvert donne le son un octave au-dessous.

L'oscillation de l'air est longitudinale dans les tuyaux. Le point nodal ayant la plus forte densité. L'air y est fortement comprimé.

The English horn is an oboe in
fa — a fifth below the oboe -
with an sad, melancholic
& intimate sound.
The clarinette has a much greater
range than the oboe.

ouvrage couronné par →
l'Académie de Beaux Arts.

Dear Sister Mary James: —

Your letter should have been answered sooner, but there have been so many visitors and other events.

As to my "religious attitudes" — you know it is a sort of tradition in this country not to talk about religion for fear of offending — I am still a little subject to the tradition, and rather dislike stating my attitudes, except in the course of a poem. — However, they are simple. I believe that the universe is one being, all its parts are different expressions of the same energy, and they are all in communication with each other, influencing each other, they are parts of one organic whole. (This is physics I believe, as well as religion.) The parts change and pass; or die; people and races and rocks and stars; none of them seems to me important in itself, but only the whole. This whole is in all its parts so beautiful and is felt by me to be so intensely in earnest, that I am "compelled to love it", and to think of it as divine. It seems to me that the whole alone

is worthy of the deepest sort of love;
and that there is peace,
freedom, I might say a kind
of salvation, in turning
one's affections outward
toward this one God, rather
than inward on one's ~~self~~ self,
or on humanity, or on
human imaginations and
abstractions - the world of
spirits.

I think that it is our
privilege and felicity to
love God for his beauty,
without claiming or
expecting love from him.
We are not important to
him, but he to us.

I think that we may
contribute (ever so slightly)
to the beauty of things
by making one's life and
surroundings beautiful,
so far as one's power reaches.
This includes moral beauty,
one of the qualities of
humanity, though it does
not appear elsewhere in
the universe. But I
would have each person
realize that his

Contribution is not important, its success not really a matter for exaltance nor its failure for mourning. The beauty of Things is sufficient without him.

... There is nothing here that has not been more feelingly expressed in my verses, but I thought that a plain question deserves a plain answer.

Sincerely yours,
(signed) Robinson Jeffers

(The office of tragic poetry is to show that there is beauty in pain and failure as much as in success and happiness.)